

What is claimed is:

1. A method for modulating lipid metabolism in an animal comprising the step of administering a pharmaceutically effective amount of a lipid modulator selected  
5 from the group consisting of:
  - (a) a hedgehog antagonist; and
  - (b) a hedgehog agonist.
2. A method of modulating vacuole formation in intestinal epithelial cells in an  
10 animal comprising the step of administering to the cell a pharmaceutically effective amount of a lipid modulator selected from the group consisting of:
  - (a) a hedgehog antagonist; and
  - (b) a hedgehog agonist.
- 15 3. A method for modulating the accumulation of fat in intestinal epithelial cells in an animal comprising the step of administering a pharmaceutically effective amount of a lipid modulator selected from the group consisting of:
  - (a) a hedgehog antagonist; and
  - (b) a hedgehog agonist.
- 20 4. A method of treating a cholesterol disorder in an animal comprising the step of administering a pharmaceutically effective amount of a lipid modulator selected from the group consisting of:
  - (a) a hedgehog antagonist; and
  - 25 (b) a hedgehog agonist.
5. A method of treating a lipid metabolism disorder in an animal comprising the step of administering a pharmaceutically effective amount of a lipid modulator selected from the group consisting of:  
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  - (a) a hedgehog antagonist; and
  - (b) a hedgehog agonist.

6. The method according to claim 5, wherein the lipid metabolism disorder is selected from the group consisting of:
- 5 (a) a lipid storage disorder;
  - (b) a lipid transport disorder;
  - (c) an apolipoprotein disorder;
  - (d) a triglyceride disorder;
  - (e) diet-induced hypercholesterolemia;
  - 10 (f) hypercholesterolemia;
  - (g) abetalipoproteinemia;
  - (h) hypobetalipoproteinemia;
  - (i) a chylomicron-retention disorder;
  - (j) Anderson's disease;
  - 15 (k) a fat absorption disorder;
  - (l) normotriglyceridemic abetalipoproteinemia;
  - (m) an apo-B 100 deficiency;
  - (n) a fat soluble vitamin disorder; and
  - (o) Atherosclerosis.
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7. The method according to claim 6, wherein the fat absorption disorder is obesity.
8. The method according to claim 6, wherein the fat absorption disorder is associated with weight loss.
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9. The method according to claim 6, wherein the fat soluble vitamin is vitamin A.
10. The method according to claim 6, wherein the fat soluble vitamin is vitamin E.

11. The method according to claim 6, wherein the triglyceride disorder is selected from the group consisting of:
- (a) a triglyceride metabolism disorder;
  - (b) a triglyceride transport disorder; and
  - (c) a triglyceride storage disorder.
12. The method according to any one of claims 1-11, wherein the hedgehog antagonist binds to the hedgehog receptor, but does not elicit a response, and is selected from the group consisting of:
- (a) a hedgehog mimetic, or an active fragment thereof;
  - (b) a modified hedgehog protein, or an active fragment thereof; and
  - (c) an anti-hedgehog homolog.
13. The method of claim 12, wherein the anti-hedgehog homolog is selected from the group consisting of:
- (a) a human antibody or an active fragment thereof;
  - (b) a chimeric antibody or an active fragment thereof; and
  - (c) a humanized antibody or an active fragment thereof.
14. The method according to any one of claims 1-11, wherein the hedgehog antagonist is an inactive hedgehog variant that binds to a hedgehog receptor but does not elicit a hedgehog-mediated signaling.
15. The method according to any one of claims 1-11, wherein the animal is a mammal.
16. The method according to claim 15, wherein the mammal is a human.